2 SEMI-ANNUAL MONITORING REPORT

In accordance with RLI Title V Permit Standard Conditions I.F and 19867, Part 32; BAAQMD Regulation 8-34-411; and 40 CFR §60.757(f) of the NSPS for landfills, this report is a Title V Combined Semi-Annual Report and Partial 8-34 Annual Report that is required to be submitted by RLI. This Report contains monitoring data for the operation of the gas collection and control system (GCCS). The operational records have been reviewed and summarized. The timeframe included in this Report is November 1, 2015 to April 30, 2016. The following table lists the rules and regulations that are required to be included in this Combined Report:

Table 2-1 Semi-Annual Report Requirements

RULE	REQUIREMENT	LOCATION IN REPORT
8-34-501.1, §60.757(f)(4)	All collection system downtime, including individual well shutdown times and the reason for the shutdown.	Section 2.1, Appendices B & D
8-34-501.2, §60.757(f)(3)	All emission control system downtime and the reason for the shutdown.	Section 2.2, Appendix B
8-34-501.3, 8-34-507, §60.757(f)(1)	Continuous temperature for all operating flares and any enclosed combustor subject to Section 8-34-507.	Section 2.3, Appendices E & F
8-34-501.4, 8-34-505, 8-34-510	Testing performed to satisfy any of the requirements of this rule.	Sections 2.4 & 2.10, Appendices G & I
8-34-501.5	Monthly landfill gas (LFG) flow rates and well concentration readings for facilities subject to 8-34-404.	Sections 2.5 & 2.11, Appendix K
8-34-501.6, 8-34-503, 8-34-506, §60.757(f)(5)	For operations subject to Section 8-34-503 and 8-34-506, records of all monitoring dates, leaks in excess of the limits in Section 8-34-301.2 or 8-34-303 that are discovered by the operator, including the location of the leak, leak concentration in parts per million by volume (ppm_v), date of discovery, the action taken to repair the leak, date of the repair, date of any required re-monitoring, and the re-monitored concentration in ppm_v.	Sections 2.6 & 2.7, Appendix H
8-34-501.7	Annual waste acceptance rate and current amount of waste in-place.	Section 2.8
8-34-501.8	Records of the nature, location, amount, and date of deposition of non-degradable wastes, for any landfill areas excluded from the collection system requirement as documented in the GCCS Design Plan.	Section 2.9
8-34-501.9, 8-34-505, §60.757(f)(1)	For operations subject to Section 8-34-505, records of all monitoring dates and any excesses of the limits stated in Section 8-34-305 that are discovered by the operator, including well identification number, the measured excess, the action taken to repair the excess, and the date of repair.	Section 2.10, Appendices I & J
8-34-501.10, 8-34-508, §60.757(f)(1)	Continuous gas flow rate records for any site subject to Section 8-34-508.	Section 2.11, Appendix K

RULE	REQUIREMENT	LOCATION IN REPORT
8-34-501.11, 8-34-509	For operations subject to Section 8-34-509, records or key emission control system operating parameters.	Section 2.2.2
8-34-501.12	The records required above shall be made available and retained for a period of five years.	Section 1.2
§60.757(f)(2)	Description and duration of all periods when the gas stream is diverted from the control device through a bypass line or the indication of bypass flow as specified under §60.756.	Section 2.2.1
§60.757(f)(6)	The date of installation and the location of each well or collection system expansion added pursuant to paragraphs (a)(3), (b), (c)(4) of §60.755.	Section 2.12
§60.10 (d)(5)(i)	Start-up, Shutdown, Malfunction Events	Section 4, Appendices B, D, and E

2.1 COLLECTION SYSTEM OPERATION [BAAQMD 8-34-501.1& §60.757(f)(4)]

Appendix A contains a map of the GCCS at RLI. Section 2.1.1 includes all collection system downtimes. The information contained in Appendix B, A-51 and A-60 Flares SSM Logs and GCCS Downtime Summary, includes the individual well shutdown times and the reason for each shutdown.

2.1.1 FLARE SYSTEM DOWNTIME

The A-51 Flare commenced operation in June 2005, and the A-60 Flare commenced operation on April 1, 2009. Table 2-2 summarizes the A-51 and A-60 Flares' downtimes for the reporting period.

Table 2-2 A-51 and A-60 Downtimes

Month	A-51 Downtime (Hours)	A-60 Downtime (Hours)
November 2015	0.00	0.00
December 2015	0.23	6.90
January 2016	4.87	5.90
February 2016	23.13	194.80
March 2016	0.00	75.07
April 2016	372.83	183.40
Total Hours:	**401.07**	**466.07**

During the period covered in this report, the GCCS was not shut down for more than five days on any one occasion. Appendix B contains the A-51 and A-60 Flare SSM

logs, and GCCS Downtime Summary which lists dates, times, and lengths of shutdowns for the reporting period and year-to-date.

2.1.2 WELL DISCONNECTION LOG

A Wellfield SSM Log that lists dates, times, and lengths of disconnections for the reporting period is included in Appendix D. In addition, 1 well (out of a possible 5) remains disconnected at the end of the reporting period, pursuant to BAAQMD Regulation 8-32-116.2 (Limited Exemption, Well Raising).

2.2 EMISSION CONTROL DEVICE DOWNTIME [BAAQMD 8-34-501.2 & §60.757(f)(3)]

No bypassing of the control system or emissions of raw LFG occurred. The Flare SSM Logs that include all downtimes and reasons for each shutdown for the A-51 and A-60 Flares are contained in Appendix B. Device downtime is summarized in Table 2-3.

Table 2-3 GCCS Downtime Summary

Total 2015 Downtime:	80.90
November 1, 2015 through April 30, 2016 Downtime:	3.30
January 1, 2016 through April 30, 2016 Total Downtime:	3.27
Total 2016 Downtime:	3.27

2.2.1 LFG BYPASS OPERATIONS (§60.757(f)(2))

Title 40 CFR §60.757(f)(2) is not applicable at RLI because no bypass line is installed. LFG cannot be diverted around the control equipment.

2.2.2 KEY EMISSION CONTROL OPERATING PARAMETERS (BAAQMD 8-34-501.11 & 8-34-509)

The A-51 and A-60 Flares are subject to continuous temperature monitoring as required in BAAQMD Regulation 8-34-507 and 40 CFR §60.757(f)(1).

2.3 TEMPERATURE MONITORING RESULTS [(BAAQMD 8-34-501.3, 8-34-507, & §60.757(f)(1)]

The RLI has two flares used to destroy LFG collected by the GCCS (A-51 and A-60). Combustion zone temperatures of the flares are monitored with thermocouples and recorded with Yokogawa DX100 paperless chart recorders. There were no continuous recorder device SSM events during the reporting period. As shown in Appendix F, there were no periods of missing temperature data for the flares during the reporting period.

Title V Permit Condition Number 19867 Part 22 states that the minimum combustion zone temperature shall be equal to the average combustion zone temperature determined during the most recent complying source test minus 50°F, provided that the minimum combustion zone temperature is not less than 1,400°F. Pursuant to Part 22, the following temperature limits applied during the reporting period:

Table 2-4 Applicable Temperature Limits

Device	Test Date	Report Submitted	Average Temperature During Test (°F)	3-hr Minimum Temperature (°F)
A-51	4/2/2015	5/20/2015	1,481	1,431
A-51	2/18/2016	4/14/2016	1,460	1,410
A-60 Zone A	2/27/2014	4/24/2014	1,574	1,524
A-60 Zone A	2/18/2016	4/14/2016	1,584	1,538
A-60 Zone B	2/19/2015	4/10/2015	1,538	1,488

The three-hour minimum temperature applies upon submittal of the source test report. Operating records for the flares indicate all flares operated in compliance with the applicable three-hour average minimum temperatures from November 1, 2015 to April 30, 2016.

Pursuant to Title V Permit Condition Number 19867, Part 30g, the annual source test at A-60 may be conducted while A-60 is operating in either zone, provided that each operating zone is tested at least once every five years. The most recent source test for Zone A was completed in 2016. Zone B was tested in 2015, meeting the obligation to test each zone every five years.

2.4 MONTHLY COVER INTEGRITY MONITORING [BAAQMD 8-34-501.3, 8-34-507, & §60.757(f)(1)]

The Monthly Cover Integrity Monitoring Reports are included in Appendix G. The cover integrity monitoring was performed on the following dates:

- November 2, 3, 4, 6, 9, 10, and 13, 2015
- December 2, 3, 4, 7, 8, and 21, 2015
- January 4, 5, 6, 7, 8, 11, 15, 18, 20, 25, and 28, 2016
- February 1, 2, 3, 4, and 8, 2016
- March 1, 2, 3, 4, 7, 8, 14, 17, and 18, 2016
- April 5, 6, 7, 11, 12, 15, 18, 19, 20, 25, 26, and 28, 2016

No breaches of cover integrity (e.g., cover cracks or exposed garbage) were found during the reporting period.

2.5 LESS THAN CONTINUOUS OPERATION (BAAQMD 8-34-501.5)

The RLI does not operate under BAAQMD Regulation 8-34-404 (Less Than Continuous Operation) and therefore is not required to submit monthly LFG flow rates.

2.6 SURFACE EMISSIONS MONITORING [BAAQMD 8-34-501.6, 8-34-506, & §60.757(f)(5)]

Quarterly Surface Emissions Monitoring (SEM), pursuant to BAAQMD Regulation 8-34-506, was conducted during the reporting period. A flame ionization detector (FID) was used during the SEM events to monitor the path along the landfill surface according to the Landfill SEM Map. Any areas suspected of having emission problems by visible observations also were monitored. Immediately prior to both monitoring events, the FID was zeroed and calibrated using zero air and a 500-ppm_v methane calibration gas.

The Fourth Quarter 2015 SEM event was conducted by Roberts Environmental Services (RES) personnel on October 7, 2015. Seven exceedances were identified. Corrective action and re-monitoring are described below:

- 5-day corrective action was completed on October 8, 2015.
- 10-day re-monitoring was completed on October 16, 2015 with all locations cleared.
- 1-month remonitoring was completed on November 5, 2015. All locations cleared.

The First Quarter 2016 SEM was conducted by RES on January 25, 2016. Four exceedances were identified. Corrective action and re-monitoring are described below:

- 5-day corrective action was completed on January 26, 2016.
- 10-day re-monitoring was completed on February 3, 2016. All locations cleared.
- 1-month remonitoring was completed February 24, 2016. All locations cleared.

SEM Reports are included in Appendix H.

2.7 COMPONENT LEAK TESTING [BAAQMD 8-34-501.6, 8-34-503)

Quarterly component leak testing, pursuant to BAAQMD Regulation 8-34-503, occurred during the reporting period on the following dates:

Fourth Quarter 2015 – October 7, 2015
First Quarter 2016 – January 25, 2016

No exceedances were identified during either monitoring event. The Component Leak Testing results are included with the SEM reports in Appendix H.

2.8 SOLID WASTE PLACEMENT RECORDS (BAAQMD 8-34-501.7)

The solid waste placement total was calculated for the period of November 1, 2015 to April 30, 2016. The current waste in place figure includes solid waste placed in the landfill through the end of the reporting period. Table 2-5 summarizes the RLI solid waste placement records for the reporting period.

Table 2-5 Solid Waste Placement

Waste Placement (November 1, 2015 to April 30, 2016)	82,102 tons
Current Waste In Place as of April 30, 2016	13.26 million

2.9 NON-DEGRADABLE WASTE ACCEPTANCE RECORDS (BAAQMD 8-34-501.8)

RLI does not have non-degradable waste areas that are excluded from the collection system. Therefore, BAAQMD Regulation 8-34-501.8 is not applicable.

2.10 WELLHEAD MONITORING DATA (BAAQMD 8-34-501.4 & 8-34-505)

Wellhead monitoring was performed on a monthly basis pursuant to BAAQMD Regulation 8-34-505. The well data for November 1, 2015 to April 30, 2016 are included in Appendix I. Each well was monitored in accordance with the following requirements:

- 8-34-305.1 – Each wellhead shall operate under a vacuum.
- 8-34-305.2 – The LFG temperature in each wellhead shall be less than 55 degrees Celsius (131 °F).
- 8-34-305.4 – The oxygen concentration in each wellhead shall be less than 5 percent by volume.

The wellhead monitoring was performed on the following dates:

- November 2, 3, 4, 6, 9, 10, and 13, 2015
- December 2, 3, 4, 7, 8, and 21, 2015
- January 4, 5, 6, 7, 8, 11, 15, 18, 20, 25, and 28, 2016
- February 1, 2, 3, 4, and 8, 2016
- March 1, 2, 3, 4, 7, 8, 14, 17, and 18, 2016
- April 5, 6, 7, 11, 12, 15, 18, 19, 20, 25, 26, and 28, 2016

WELLHEAD DEVIATIONS [BAAQMD 8-34-501.9 & §60.757(f)(1)]

A total of 3 deviations from the wellhead standards in 8-34-305 occurred during the reporting period. All exceedances were corrected prior to issuance of this report.

The Wellfield Deviation Log is included in Appendix J.

2.11 GAS FLOW MONITORING RESULTS [BAAQMD 8-34-501.10, 8-34-508 & §60.757(f)(1)]

The LFG flow rates from both the A-51 and A-60 flares are measured with Veris flow meters. The flare flow meters meet the requirements of BAAQMD Regulation 8-34-508 by recording fuel flow at least every 15 minutes.

Appendix K contains a summary of the daily and monthly LFG flow rates and heat input for the flares. These flow rates are summarized in Table 2-6:

Table 2-6 Total LFG Flow

Emission Control Device	Total Runtime (hours)	Average Flow Rate (scfm)	Average Methane (%)[1]	Total LFG Flow (scf)	12-Month Total LFG Flow (scf) Corrected to 500 BTU/scf	Max Daily Flow (scf) Corrected to 500 BTU/scf
A-51	3,967	1,531	52.8	364,359,766	833,205,455	3,761,308
A-60	3,902	887	55.4	207,596,354	452,629,163	3,578,922
Total	4,365	2,184	53.8	571,956,120	1,285,834,618	--

[1]Methane content was determined from the February 19, 2015, April 2, 2015, and February 18, 2016 Source Tests. Heating value of methane used in heat input calculations is 1,013 BTU/scf
scfm = standard cubic feet per minute
scf= standard cubic feet
MMBTU = million British thermal units

Pursuant to Title V Condition Number 19867, Part 20, the total LFG throughput to the either flare did not exceed 4,320,000 scf during any one day. The A-51 and A-60 Flares combined total LFG throughput did not exceed 2,207,520,000 scf during any consecutive 12-month period.

Appendix K contains a summary of the combined daily LFG flow rates for the A-51 and A-60 Flares and the consecutive 12-month summaries.

There were no periods of missing data or chart recorder non-operation for the A-51 or A-60 Flares during the reporting period. The Flare Missing Data Report Forms are included in Appendix F.

2.12 COMPLIANCE WITH §60.757(f)(6)

"The date of installation and the location of each well or collection system expansion added pursuant to (a)(3), (b), (c)(4) of §60.755."

Routine GCCS maintenance occurred during the reporting period. The Wellfield SSM Log is included in Appendix D, Wellfield SSM Log.

No wells/collectors were added or removed to the collection system during the reporting period (November 1, 2015 to April 30, 2016).

As of the end of this reporting period, 92 total collectors (75 vertical wells and 17 horizontal collectors) were in service at RLI. A map of the LFG collection system showing the positioning of all vertical wells, horizontal collectors, and other LFG extraction devices is included in Appendix A.

2.13 COMPLIANCE WITH TITLE V PERMIT CONDITION 13123 (S-34 & S-39)

The S-34 Compost Facility Operations and S-39 Screening Operations were utilized during the reporting period. The total amount of material processed did not exceed 160,368 tons during any consecutive 12-month period during the reporting period of November 1, 2015 to April 30, 2016. Monthly and 12-month rolling throughputs are summarized in Table 2-7.

Table 2-7 Composting and Screening Operations Throughput

Month	Total Throughput (tons)	Rolling 12-Month Throughput (tons)
November 2015	7,627	71,874
December 2015	10,161	78,868
January 2016	7,443	81,661
February 2016	8,345	86,133
March 2016	10,424	91,673
April 2016	10,956	96,494

Pursuant to Title V Permit Condition Number 13123 Part 7, all yard waste material was processed within 72 hours of receipt. In addition, pursuant to Title V Permit Condition Number 13123 Part 8, the plant received no public nuisance notices of violation during the reporting period of November 1, 2015 to April 30, 2016.

2.14 COMPLIANCE WITH TITLE V PERMIT CONDITIONS 14098 AND 16516 (S-55)

Pursuant to Title V Permit Condition Number 14098, the annual gasoline throughput for the S-55 Non-Retail Gasoline Dispensing Facility Number 8573 did not exceed 940,000 gallons in any consecutive 12-month period during the timeframe of this report. Monthly gasoline throughput totals for the reporting period are listed in Table 2-8:

Table 2-8 Unleaded Gasoline Throughput

Month	Total Throughput (gallons)	Rolling 12-Month Fuel Usage (gallons)
November 2015	124	2,674
December 2015	141	2,461
January 2016	166	2,303
February 2016	106	2,160
March 2016	205	2,121
April 2016	166	2,018

Pursuant to Title V Permit Condition Number 16516, the Static Pressure Performance Test (Leak Test) for S-55 was performed on April 11, 2016. S-55 passed the 2015 Leak Test. The Static Pressure Performance Test results are included in Appendix O.

2.15 COMPLIANCE WITH TITLE V PERMIT CONDITIONS 22820 (S-49)

The permit for S-49 was surrendered to BAAQMD on November 4, 2013. The equipment is on longer on site.

2.16 COMPLIANCE WITH TITLE V PERMIT CONDITION 19865 (S-41)

Pursuant to Title V Permit Condition 19865, the total of waste processed at the S-41 Yard and Green Waste Shredding Operation did not exceed 820 tons per day or 200,000 tons per year. Table 2-9 summarizes the amount of waste processed at S-41 during the reporting period:

Table 2-9 Waste Processed at S-41

Month	Total Throughput (tons)	Rolling 12-Month Throughput (tons)
November 2015	7,627	71,874
December 2015	10,161	78,868
January 2016	7,443	81,661
February 2016	8,345	86,133
March 2016	10,424	91,673
April 2016	10,956	96,494

2.17 COMPLIANCE WITH TITLE V PERMIT CONDITION 19866 (S-42)

The total amount of material received at the S-42 Soil and Cover Stockpiles did not exceed 1,160 tons per day and 105,500 tons per year.

2.18 COMPLIANCE WITH TITLE V PERMIT CONDITION 19867, PARTS 6-10

The following is a summary of vehicle activity at the RLI:

- The mean vehicle fleet weight for all off-site vehicles traveling on paved roads was 13.56 tons, which is below the permit limit of 15.31 tons.
- Mean vehicle fleet weight for all off-site vehicles traveling on gravel or dirt roads was 15.91 tons, which is below the permit limit of 16.63 tons.
- The mean vehicle fleet weight for all on-site landfilling and construction related vehicles was 9.9 tons, which is below the permit limit of 28.37 tons.
- During the reporting period, the vehicle miles travelled (VMT) per day on gravel roads did not exceed the permit limit of 280 VMT per day. 2015-2016 partial calendar year VMT on gravel roads was 18,305 VMT, below the limit of 87,080 VMT.
- During the reporting period, the VMT per day on dirt roads did not exceed the permit limit of 639 VMT per day. 2015-2016 partial calendar year VMT on dirt roads was 49,397 VMT, below the limit of 198,650 VMT.
- During the reporting period, the VMT per day on paved roads did not exceed the permit limit of 622 VMT per day. 2015-2016 partial calendar year VMT on paved roads was 30,876 VMT, below the limit of 205,880 VMT.
- During the reporting period, the VMT per day on paved roads for the on-site vehicle fleet did not exceed the permit limit of 61 VMT per day. 2015-2016 partial calendar year VMT on paved roads is 7,093 VMT, below the limit of 19,080 VMT.

The records for VMT and average vehicle fleet weights are available for review at RLI.

2.19 COMPLIANCE WITH TITLE V PERMIT CONDITION 19867, PARTS 14 AND 15

No contaminated soil containing volatile organic compound (VOC) concentrations greater than 50 parts per million (ppm) was received during this reporting period. The total VOC emission rate for the reporting period (November 1, 2015 to April 30, 2016) is 0.00 lbs. The VOC soil log is included in Appendix L.

2.20 COMPLIANCE WITH TITLE V PERMIT CONDITION 19867, PARTS 31 AND 33

WEEKLY H_2S MONITORING

Pursuant to Title V Permit Condition Number 19867, Part 31b, weekly hydrogen sulfide (H_2S) readings were taken using Draeger tubes. The applicable limit is 450 ppm_v as TRS. The weekly H_2S readings and quarterly averages are summarized in Appendix M, H_2S Weekly and Quarterly Monitoring. Starting in April 2016, RLI has observed H_2S present in concentrations exceeding the 450 ppm_v limit. RLI submitted a 10-day deviation letter to BAAQMD on April 15, 2016 and a 30-day follow-up letter on April 29, 2016. Follow-up actions are discussed later in this section.

QUARTERLY H_2S CHARACTERIZATION

Pursuant to Title V Permit Condition Number 19867, Part 31a, RLI collected the quarterly characterization of the LFG for analysis of sulfur compounds. The results are included in Tables 2-10 and Appendix M. The First Quarter 2016 sample had a TRS concentration exceeding the 450 ppm_v limit. RLI submitted a 10-day deviation letter to BAAQMD on April 8, 2016 and a 30-day follow-up letter on April 29, 2016. Follow-up actions are discussed later in this section.

Table 2-10 LFG Characterization Results

Compound	Fourth Quarter 2015 Result (ppm_v)	First Quarter 2016 Result (ppm_v)	Permit Limits (ppm_v)
Hydrogen Sulfide	370	606	N/A
Carbonyl Sulfide	ND	ND	N/A
Methyl Mercaptan	ND	0.3	N/A
Ethyl Mercaptan	ND	0.2	N/A
Dimethyl Sulfide	ND	ND	N/A
Carbon Disulfide	ND	ND	N/A
Total Reduced Sulfur	**370**	**610**	**450**

ND = not detected
N/A = not applicable

ANNUAL LFG CHARACTERIZATION

LFG characterization sampling was conducted concurrently with the A-60 annual source test as required by Title V Permit Condition Number 19867, Part 31 on February 18, 2016. The LFG sample was collected from the main LFG header and analyzed for the organic and sulfur compounds listed in Part 31. The results were included in the Annual Source Test report submitted on April 14, 2016.

Results for Toxic Air Contaminants (TACs) are presented in Table 2-11 and indicate that the LFG collected by S-5 exceeded the limits listed in Title V Permit Condition 19867, Part 18.b for ethylbenzene and 1,4-dichlorobenzene. RLI submitted a 10-day deviation letter to BAAQMD on April 8, 2016 and a 30-day follow-up letter on April 29, 2016. Follow-up actions are discussed later in this section.

Table 2-11 Annual LFG Characterization: Toxic Air Contaminants

Compound	Result (ppb_v)	Concentration Limit* (ppb_v)
Acrylonitrile	<280	300
Benzene	483	1,500
Benzyl Chloride	<80	500
Carbon Tetrachloride	<60	200
Chlorobenzene	129	200
Chloroethane	<60	500
Chloroform	<60	200

Compound	Result (ppb_v)	Concentration Limit* (ppb_v)
1,4-Dichlorobenzene	1,900	1,000
Ethylbenzene	4,160	4,000
Ethylene Dibromide	<80	200
Ethylene Dichloride	82.2	200
Ethylidene Dichloride	<80	500
Hexane	444	2,000
Isopropyl Alcohol	<120	10,000
Methyl Alcohol	<0.01	300,000
Methyl Ethyl Ketone	642	15,000
Methylene Chloride	<80	1,000
Methyl tert-Butyl Ether	<50	500
Perchloroethylene	64	1,000
Styrene	334	500
1,1,2,2-Tetrchloroethane	<80	200
Toluene	4,350	20,000
1,1,1-Trichloroethane	<60	200
Trichloroethylene	<60	500
Vinyl Chloride	146	2,000
Vinylidene Chloride	<80	500
Xylenes	8,880	20,000

ppb_v = parts per billion by volume

CORRECTIVE ACTIONS

Since submittal of the 10-day deviation letters and 30-day follow-up letters, the following corrective actions have been initiated:

- RLI has initiated discussions with BAAQMD's Engineering Division with the intent to determine permitting solutions for the single sample limits for H_2S and other TACs in RLIs permit. Permit applications are currently in progress.
- With input from BAAMD's Legal, Engineering, and Enforcement Divisions, RLI is preparing a draft Compliance and Enforcement Agreement.
- RLI has completed a full wellfield survey to determine concentrations of hydrogen sulfide (H_2S) at each well.
- RLI has initiated monitoring in accordance with the May 2011 Proposed Monitoring Plan. Upon receipt of the final approved plan from BAAQMD, RLI will incorporate any changes into the Site's monitoring within 3 months.
- RLI completed additional sampling for the presence of 1,4-dichlorobenzene and ethylbenzene on April 11, 2016. The results, presented below, show that the

ethylbenzene concentration was under the permit limit while the 1,4-dichlorobenzene concentration was still above the limit.

Compound	Source Test	4/11/2016	Limit	Units
1,4-Dichlorobenzene	1,900	1,430	1,000	ppb_v
Ethylbenzene	4,160	3,555	4,000	ppb_v

RLI is confident that the monitoring and permitting actions will show that actual health risks derived from LFG emissions will remain below BAAQMD thresholds.

2.21 COMPLIANCE WITH TITLE V PERMIT CONDITION 22940 (S-56)

Conditions from the California Air Resources Board (CARB) Permit Number 117378 for the S-56 Portable Horizontal Grinder have been incorporated by reference into the RLI Title V Permit. Therefore, the compliance records for this equipment have been included in this Combined Report. Pursuant to BAAQMD Condition Number 22940, the emissions of particulate matter less than 10 microns in diameter (PM_{10}) did not exceed 10 tons per year. The maximum daily throughput for the portable horizontal grinder (S-56) did not exceed 820 tons per day or 200,000 tons per year. Monitoring is performed daily when operations are conducted, the recording of total throughput of all registered equipment units operating. Table 2-12 lists the PM_{10} emissions and total throughput of waste processed at S-56 for the reporting period:

Table 2-12 Waste Processed at S-56

Month	PM_{10} Emissions (tons)	Estimated Total Throughput (tons)
November 2015	0	0
December 2015	0	0
January 2016	0.09	1,818
February 2016	0.18	3,630
March 2016	0.10	1,980
April 2016	0.01	110
TOTAL:	0.38	7,538

2.22 COMPLIANCE WITH TITLE V PERMIT CONDITION 22941 (S-57)

Conditions from the California Air Resources Board (CARB) Permit Number 117376 for the S-57 Portable Diesel Engine have been incorporated by reference into the RLI Title V Permit. Therefore, the compliance records for this equipment have been included in this Combined Report. Pursuant to BAAQMD Condition Number 22941, the diesel fuel usage has not exceeded 72,295 gallons during any consecutive 12-month period. The Daily fuel and operating records are maintained and summarized on a monthly basis. Table 2-13 lists the monthly and rolling 12-month fuel usage for the S-57 Portable Diesel Engine for the reporting period:

Table 2-13 Fuel Usage at S-57

Month	Diesel Fuel Usage (gallons)	Rolling 12-Month Fuel Usage (gallons)
November 2015	0	0
December 2015	0	0
January 2016	173	173
February 2016	173	346
March 2016	593	939
April 2016	0	939

2.23 COMPLIANCE WITH TITLE V PERMIT CONDITION 23052 (S-58)

Pursuant to Permit Condition 23052 Part 1, the total leachate influent rate to the Aerated Leachate Pond (S-58), excluding non-contact storm runoff, did not exceed 39.42 million gallons during any consecutive 12-month period.

During the reporting period it was discovered that the current method for calculating leachate flow was greatly overestimating flow to Area C of the landfill. The sumps for Area C discharge to a single pipe. Flow measurements from that pipe are monitored using two separate systems. One is the ABS control panel that controls which the operation of the sumps, monitors actual flow rates, and has a totalizer. The second is the ABB monitoring system, which also monitors instantaneous flow and has a totalizer. The ABB is calibrated on an annual basis.

Previously, flow measurements from Area C were calculated using the ABS control panel. In April 2016, RLI discovered that the ABS panel was set up to estimate flow assuming a set flow rate and the actual hours of operation. This method greatly overestimates leachate flow. The most accurate method to estimate total flow from the Area C sumps is to use the ABB totalizer. Leachate flows from January 2015 to present were recalculated. These were used to update rolling 12-month flow rates to S-58.

Table 2-14 displays the leachate flow information for S-58.

Table 2-14 Leachate Flow Information for S-58

Month	Total Leachate Influent Rate to S-58 (gallons)	Total Rolling 12-Month Flow Rate to S-58 (millions of gallons)
January 2015	2,755,628	24,274,962
February 2015	2,144,562	25,202,718
March 2015	1,980,924	24,745,520
April 2015	1,240,519	23,460,239
May 2015	929,228	22,404,167
June 2015	1,118,107	21,602,087
July 2015	1,134,939	21,704,446
August 2015	852,181	20,891,207
September 2015	990,938	20,256,308

Month	Total Leachate Influent Rate to S-58 (gallons)	Total Rolling 12-Month Flow Rate to S-58 (millions of gallons)
October 2015	783,266	20,183,270
November 2015	786,969	19,686,805
December 2015	1,768,770	16,486,032
January 2016	2,647,758	16,378,163
February 2016	2,354,914	16,588,515
March 2016	3,431,760	18,039,351
April 2016	1,592,800	18,391,631

As shown in Table 2-15, the average concentration of precursor organic compounds (POCs) in the leachate influent to S-58 did not exceed the limits specified by Title V Permit Condition Number 23052 Parts 2 and 3:

Table 2-15 POC Concentrations for S-58

Sample Date	Benzene (ppb)	1,4-Dichlorobenzene (ppb)	Vinyl Chloride (ppb)	Total POC Concentration (ppb)
June 4, 2015	4.9	5.75	ND<0.5	40.75
Limit	19	48	7	500

2.24 COMPLIANCE WITH TITLE V PERMIT CONDITION 24527 (S-61 AND S-62)

The S-61 Portable Diesel Engine for Waste Tipper and S-62 Portable Diesel Engine for Power Screens operated less than 4,992 hours combined during any 12-month period ending in the November 1, 2015 to April 30, 2016 reporting period. Table 2-16 displays runtime hours for S-61 and S-62 during the reporting period.

Table 2-16 S-61 and S-62 Portable Diesel Engines

Month	S-61 Total Runtime (Hours)	S-62 Total Runtime (Hours)	Combined Rolling 12-Month Total (Hours)
November 2015	26	0	316
December 2015	20	0	316
January 2016	19	0	306
February 2016	21	0	307
March 2016	21	0	311
April 2016	24	0	305

2.25 COMPLIANCE WITH TITLE V PERMIT CONDITION 25634

Permit Condition 25634 requires the calculation of monthly LFG Input to all LFG-Fired Combustion Equipment and calculation of monthly emissions of CO and SO2. The calculations are summarized on a quarterly basis to show compliance with rolling 4-

quarter limits. These calculations are summarized below. Complete calculations are presented in Appendix P.

Table 2-17 Rolling 4-Quarter LFG Input and CO and SO_2 Emissions

Year	Quarter	Rolling 4-Quarter Totals		
		LFG Input (MMscf)	CO Emissions (tons)	SO_2 Emissions (tons)
2015	2	1,160	7.94	26.22
2015	3	1,171	9.59	23.36
2015	4	1,182	10.78	25.68
2016	1	1,186	11.38	25.81
Limits		2,625	237.5	99

3 PERFORMANCE TEST REPORT

In accordance with BAAQMD Regulation 8-34-413 and 40 CFR §60.757(g) in NSPS, a Performance Test Report is required to be submitted from subject facilities containing performance and monitoring data for the operation of the GCCS. The operational records listed in Table 3-1 have been reviewed, summarized, and are included herein.

Table 3-1 Performance Test Requirements

Rule	Requirement	Location in Report
8-34-412, §60.8, §60.752(b)(2)(iii)(B), §60.754(d)	Compliance Demonstration Test	Section 3.1,
§60.757(g)(1)	A diagram of the collection system showing collection system positioning including all wells, horizontal collectors, surface collectors, or other gas extraction devices, including the locations of any areas excluded from collection and the proposed sites for future collection system expansion.	Section 3.2, Appendix A
§60.757(g)(2)	The data upon which the sufficient density of wells, horizontal collectors, surface collectors, or other gas extraction devices and the gas mover equipment sizing are based.	Section 3.3
§60.757(g)(3)	The documentation of the presence of asbestos or non-degradable material for each area from which collection wells have been excluded based on the presence of asbestos or non-degradable material.	Section 3.4
§60.757(g)(4)	The sum of the gas generation flow rates for all areas from which collection wells have been excluded based on non-productivity and the calculations of gas generation flow rate for each excluded area.	Section 3.5
§60.757(g)(5)	The provisions for increasing gas mover equipment capacity with increased gas generation flow rate, if the present gas mover equipment is inadequate to move the maximum flow rate expected over the life of the landfill.	Section 3.6
§60.757(g)(6)	The provisions for the control of off-site migration.	Section 3.7

3.1 SOURCE TEST RESULTS (BAAQMD 8-34-412)

3.1.1 FLARE (A-51) SOURCE TEST RESULTS

The 2016 Annual Compliance Demonstration Test (Source Test) was conducted on February 18, 2016. The Test Report was submitted to BAAQMD on April 14, 2016. A summary of the source test report is presented in Appendix N.

The results for the A-51 Flare indicated that the flare is in compliance with BAAQMD Regulation 8-34-301.3 and Title V Condition Number 19867, Parts 23 and 26. Inlet LFG samples were collected from the discharge side of the blower during the test to show compliance with the NMOC limits from Title V Permit Condition Number 18.a. Table 3-2 below shows the results of the source test, averaged from three test runs.

4 START-UP, SHUTDOWN, MALFUNCTION REPORT

Start-up, Shutdown, Malfunction (SSM) Report for the Collection and Control Systems at the Redwood Landfill

The NESHAP contained in 40 CFR Part 63, AAAA for MSW landfills to control hazardous air pollutants include the regulatory requirements for submittal of a semi-annual report (under 40 CFR §63.10(d)(5) of the general provisions) if an SSM event occurred during the reporting period. The reports required by 40 CFR §63.1980(a) of the NESHAP and §60.757(f) of the NSPS summarize the GCCS exceedances. These two semi-annual reports contain similar information and have been combined as allowed by 40 CFR §63.10(d)(5)(i) of the General Provisions.

NESHAP 40 CFR Part 63, AAAA became effective on January 16, 2004. SSM events that occurred during the semi-annual reporting period (November 1, 2015 to April 30, 2016) are noted in this section and included in Appendix B. The following information is included as required:

- During the reporting period, 8 A-51 Flare SSM events, 14 A-60 Flare Zone A SSM events, and 3 A-60 Flare Zone B SSM events occurred. The time, duration, and cause of each event are included in Appendix B, Flare SSM Logs.
- During the reporting period, 9 wellfield SSM events occurred. The time and duration of these events are included in Appendix D, Wellfield SSM Log.
- During the reporting period, 0 monitoring/recorder equipment SSM event occurred.
- In all 34 flare and wellfield SSM events, automatic systems and operator actions were consistent with the standard operating procedures contained in the SSM Plan.
- Revisions of the SSM Plan to correct deficiencies in the landfill operations or procedures were neither required nor prepared (§63.6(e)(3)(viii)).

I certify the following:

Based on information and belief formed after reasonable inquiry, information on the startup, shutdown, malfunction forms, all accompanying reports, and other required certifications are true, accurate, and complete.

Ramin A. Khany

Signature of Responsible Official

May 25, 2016
Date

Ramin Khany
Name of Responsible Official